

REMARKS

Claims 41-57, 83-94, and 97-107 are pending in the application. In this response, new claim 107 has been added. Support for the new claim can be found throughout the specification and claims as originally filed. See, for example, page 1, lines 5-6, page 13, lines 8-15, and page 16, lines 18-26.

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the following remarks.

Rejections under 35 U.S.C. § 103

(i) Claims 104 and 105 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over EP 0102847 ("Sandvig") in view of U.S. Patent No. 6,000,814 ("Nestell"). Applicants respectfully traverse the Examiner's rejection for at least the following reasons.

The Office has the initial burden of establishing a **factual basis** to support the legal conclusion of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For rejections under 35 U.S.C. § 103(a) based upon a combination of prior art elements, in KSR Int'l v. Teleflex Inc., 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007), the Supreme Court stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some **articulated reasoning with some rational underpinning** to support the legal conclusion of obviousness." In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (emphasis added).

Sandvig relates to an ophthalmic lens and a method for providing a thin single coating thereon. (Abstract). Sandvig discloses a coating composition which is applied to one or more mold surfaces by a variety of techniques including spraying, dipping, brushing, flow coating, spin coating and the like. (Page 4, lines 26-31 and Page 5, lines 26-29). The coating is then reacted to a degree that it forms a dry film. (Page 4, lines 32-35). The mold is then filled with an organic liquid material capable of hardening to a solid, room temperature stable state. (Page 5, lines 1-3). The organic liquid material is hardened to form the ophthalmic device. (Page 5, lines 4-5). Sandvig discloses that as the organic liquid hardens, the film of coating composition forms an intimate bond to the substrate so that it adheres to the optical surface of the device more firmly than it adheres to the face of the mold. The coating is so intimately attached to the substrate that it can withstand repeated exposure to freeze/thaw cycles without any loss of adhesion. (Page 8, lines 11-17).

As acknowledged in the Official Action dated May 21, 2007, Sandvig is silent regarding an intermediate or second coating between the abrasion-resistant coating and the organic material. (Page 2, Official Action). Accordingly, Nestell has been cited as allegedly suggesting an intermediate or second coating between the abrasion-resistant coating and the organic material.

Nestell relates to vehicle components incorporating polymeric elements with members, casings, or gaskets formed thereon. (Col. 1, lines 6-9). Nestell discloses a headlamp assembly including a lens module. (Col. 5, lines 47-48). The lens module 23 includes an integrally molded member defining a gasket 28, which extends around the perimeter of lens 24 to cover the gap between lens 24 and fender 16, bumper cover 18, and hood 20 of vehicle 12. (Col. 7, lines 50-55). The

outer surface of the lens is coated with a protective coating 27a which comprises silicones. An intermediate primer coating 27d, which comprises acrylics, is applied to lens 24 to improve the adhesion between the protective hard coat 27a and lens 24. (Col. 6, lines 23-34).

In contrast, independent claim 104 recites a method of forming a coated optical element, the method using a mould having first and second mould sections that will form front and back surfaces of the optical element, one of the mould sections having a casting face, the method including the steps of: (a) applying a first coating layer to cover the casting face of a mould section, the casting face being capable of imparting a desired optical configuration on a surface of the optical element; (b) treating the first coating layer to prevent damage to the first coating layer during subsequent steps; (c) **applying a second coating layer to the first coating layer to substantially cover the first coating layer;** (d) **treating the second coating layer to provide at least weak adhesion of the second coating layer to the first coating layer and to prevent damage to the second layer during subsequent steps;** (e) filling the mould with an organic liquid material; and (f) **hardening the organic liquid material so as to form the optical element adhered to the second coating layer,** wherein the hardening comprises co-reacting the second coating layer, the organic liquid material and the first coating layer, and wherein the second coating layer is between and in contact with the organic liquid material and the first coating layer to provide adhesion between the organic liquid material and the first coating layer.

Initially, it should be noted that Nestell, as provided above, discloses a lens module used in a headlamp assembly for a vehicle and Sandvig discloses a single

coating ophthalmic lens. Accordingly, there is no reason for one of skill in the art to turn to Nestell after reading Sandvig's disclosure because Nestell and Sandvig relate to two very distinct and unrelated fields of endeavor that involve products in different environments and different functions.

As such, Applicants respectfully submit that one of skill in the ophthalmic lens art would not have looked to vehicle headlamps art for any purpose.

Further, Applicants respectfully submit that Nestell's lens is not formed by in-mould coating. In fact, Nestell discloses that ultraviolet radiation absorbers or stabilizers may be incorporated into an intermediate primer coating 27d, which is typically applied to lens 24 by the manufacturer to improve the adhesion between the protective hard coat 27a and lens 24. (Col. 6, lines 30-34). It appears that Nestell's lens is a pre-formed lens and not a lens manufactured by the presently recited in-mould coating process.

Moreover, it should be noted that Nestell's lens is a polycarbonate lens. (Col. 6, lines 14-15). Applicants respectfully submit that polycarbonate lenses are traditionally obtained by injection molding. (See, for example, Col. 7, lines 18-48 of U.S. Patent No. 6,886,937). In most cases, an injection molded lens is removed from the mold prior to subsequent coatings being formed on the lens. Applicants respectfully submit that it is technically very difficult to add the coating layers to the surface of a mold that is to be used for injection molding, as opposed to a mold that is to be used for a UV cured system such as the one described in the present disclosure. Accordingly, Applicants respectfully submit that Nestell's polycarbonate lens is formed by injection molding followed by traditional overcoating with the primer coating and the protective hard coat. As such, it is respectfully submitted that

Nestell's polycarbonate lens is not formed by the presently recited in-mould coating methods.

Additionally, Applicants respectfully submit that although Nestell teaches an intermediate film, there is no reason that one of skill in the art would introduce an intermediate film in the ophthalmic lens of Sandvig. The reason for this is that Sandvig discloses that as the organic liquid hardens, the film of coating composition forms an intimate bond with the substrate so that it adheres to the optical surface of the device more firmly than it adheres to the face of the mold and the coating is so intimately attached to the substrate that it can withstand repeated exposure to freeze/thaw cycles without any loss of adhesion. (Page 8, lines 11-17).

Sandvig goes on to describe the various advantages of the intimate bond between its coating composition and the substrate. (See Page 8, lines 19-37 and Page 9, lines 1-5). Applicants respectfully submit that the introduction of an intermediate layer in Sandvig would destroy the spirit of Sandvig's ophthalmic device. Moreover, Applicants respectfully submit that Sandvig teaches away from the use of any intermediate layers between its coating and substrate. Applicants direct the Examiner's attention to M.P.E.P. § 2143.01, wherein it is provided that if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. (See, In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)).

Accordingly, Applicants respectfully submit that after reading Sandvig's disclosure regarding an ophthalmic device in which its single layer coating forms an intimate bond with the substrate, one of skill in the art would not turn to Nestell's

vehicle headlamp lens to add an intermediate layer in Sandvig's already successful ophthalmic device.

Even if Sandvig and Nestell were inappropriately combined, the combination of Sandvig and Nestell does not disclose or suggest all the features recited in independent claim 104. Applicants respectfully submit that Sandvig and/or Nestell do not disclose or suggest **applying a second coating layer to the first coating layer to substantially cover the first coating layer**. Sandvig and/or Nestell also fail to disclose or suggest **treating the second coating layer to provide at least weak adhesion of the second coating layer to the first coating layer and to prevent damage to the second layer during subsequent steps**, as recited in independent claim 104.

More particularly, it should be noted that Nestell does not disclose or suggest that the intermediate primer coating 27d is applied such that the protective coating 27a is substantially covered. In fact, Nestell merely discloses that the intermediate primer coating 27d aids in the adhesion of the protective coating 27a to the lens 24. Nestell does not disclose or suggest that the intermediate primer coating 27d is coated to **substantially cover** the protective coating 27a. In contrast, independent claim 104 recites **applying a second coating layer to the first coating layer to substantially cover the first coating layer**.

Moreover, Nestell does not disclose or suggest treating the intermediate primer coating 27d. In contrast, independent claim 104 recites **treating the second coating layer to provide at least weak adhesion of the second coating layer to the first coating layer and to prevent damage to the second layer during subsequent steps**.

Applicants also note that even if Sandvig and Nestell were not inappropriately combined, Nestell's disclosure regarding primer coating 27b and second primer coating 27c cannot be relied upon to teach or suggest any of the presently recited coatings because coatings 27b and 27c improve adhesion of a gasket material 28 to the protective coated lens. (See Col. 11, lines 35-63 of Nestell). Nestell's gasket material 28 is integrally molded onto the peripheral edge of the lens 24 by a molding apparatus. (Col. 9, lines 47-49). The gasket material is used in Nestell to hold the lens in place in the headlamp assembly.

In contrast, independent claim 104 recites an **optical element** that does not include any gasket material.

As such, Applicants respectfully submit that Sandvig and Nestell fail to disclose or suggest all the limitations recited in independent claim 104. For at least the foregoing reasons, Applicants respectfully submit that independent claim 104 is patentable over Sandvig in view of Nestell. As dependent claim 105 depends from claim 104, claim 105 is also patentable over Sandvig in view of Nestell for at least the same reasons.

Accordingly, Applicants respectfully request that the obviousness rejection over Sandvig in view of Nestell be withdrawn.

(ii) Claim 106 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Sandvig in view of Nestell as applied to claim 104 above, and further in view of U.S. Patent No. 5,462,806 ("Konishi"). Applicants respectfully traverse the Examiner's rejection for at least the following reasons.

Dependent claim 106 depends from independent claim 104. Konishi is cited merely as disclosing the additional feature recited in dependent claim 106. As such, Konishi fails to cure the many above-noted deficiencies with regard to Sandvig and Nestell. For at least the reasons provided hereinabove, Applicants respectfully submit that dependent claim 106 is also patentable over Sandvig in view of Nestell and further in view of Konishi for at least the same reasons.

Accordingly, Applicants respectfully request that the obviousness rejection over Sandvig in view of Nestell and further in view of Konishi be withdrawn.

(iii) Claims 41-57, 83-85, 88-94, 97, 98, 102, and 103 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Sandvig in view of Nestell and Konishi. Applicants respectfully traverse the Examiner's rejection for at least the following reasons.

Sandvig relates to an ophthalmic lens and a method for providing a thin single coating thereon. (Abstract). Sandvig discloses a coating composition which is applied to one or more mold surfaces by a variety of techniques including spraying, dipping, brushing, flow coating, spin coating and the like. (Page 4, lines 26-31 and Page 5, lines 26-29). The coating is then reacted to a degree that it forms a dry film. (Page 4, lines 32-35). The mold is then filled with an organic liquid material capable of hardening to a solid, room temperature stable state. (Page 5, lines 1-3). The organic liquid material is hardened to form the ophthalmic device. (Page 5, lines 4-5). Sandvig discloses that as the organic liquid hardens, the film of coating composition forms an intimate bond to the substrate so that it adheres to the optical surface of the device more firmly than it adheres to the face of the mold. The coating

is so intimately attached to the substrate that it can withstand repeated exposure to freeze/thaw cycles without any loss of adhesion. (Page 8, lines 11-17).

As acknowledged in the Official Action dated May 21, 2007, Sandvig is silent regarding an intermediate or second coating between the abrasion-resistant coating and the organic material. (Page 2, Official Action). Accordingly, Nestell has been cited as allegedly suggesting an intermediate or second coating between the abrasion-resistant coating and the organic material.

Nestell relates to vehicle components incorporating polymeric elements with members, casings, or gaskets formed thereon. (Col. 1, lines 6-9). Nestell discloses a headlamp assembly including a lens module. (Col. 5, lines 47-48). The lens module 23 includes an integrally molded member defining a gasket 28, which extends around the perimeter of lens 24 to cover the gap between lens 24 and fender 16, bumper cover 18, and hood 20 of vehicle 12. (Col. 7, lines 50-55). The outer surface of the lens is coated with a protective coating 27a which comprises silicones. An intermediate primer coating 27d, which comprises acrylics, is applied to lens 24 to improve the adhesion between the protective hard coat 27a and lens 24. (Col. 6, lines 23-34).

Konishi relates to a plastic lens. (Col. 1, line 4). Konishi discloses that the plastic lens comprises primer coatings which can include methacryloxypropylmethyldiethoxysilane. (Col. 1, lines 52-61; Col. 3, lines 52-56, and Col. 5, lines 43-44).

In contrast, independent claim 41 recites a method of forming a **coated optical element**, the method using a mould having first and second mould sections that will form front and back surfaces of the optical element, one of the mould

sections having a casting face, the method including the steps of: (a) **applying a first coating layer** to cover the casting face of a mould section, the casting face being capable of imparting a desired optical configuration on a surface of the optical element, wherein the first coating layer is an abrasion resistant coating layer comprising polysiloxane resin; (b) treating the first coating layer to prevent damage to the first coating layer during subsequent steps; (c) **applying a second coating layer to the first coating layer to substantially cover the first coating layer**; (d) **treating the second coating layer to provide at least weak adhesion of the second coating layer to the first coating layer and to prevent damage to the second layer during subsequent steps**; (e) filling the mould with an organic liquid material; and (f) hardening the organic liquid material so as to form the optical element adhered to the second coating layer, wherein the second coating layer is an intermediate coating layer comprising a (meth)acryl silane, and wherein the (meth)acryl silane, the organic liquid material and the abrasion resistant coating layer co-react to form the coated optical element.

Initially, it should be noted that Nestell, as provided above, discloses a lens module used in a headlamp assembly for a vehicle and Sandvig discloses a single coating ophthalmic lens. Accordingly, there is no reason for one of skill in the art to turn to Nestell after reading Sandvig's disclosure because Nestell and Sandvig relate to two very distinct and unrelated fields of endeavor that involve products in different environments and different functions.

As such, Applicants respectfully submit that one of skill in the ophthalmic lens art would not have looked to vehicle headlamps art for any purpose.

Further, Applicants respectfully submit that Nestell's lens is not formed by in-mould coating. In fact, Nestell discloses that ultraviolet radiation absorbers or stabilizers may be incorporated into an intermediate primer coating 27d, which is typically applied to lens 24 by the manufacturer to improve the adhesion between the protective hard coat 27a and lens 24. (Col. 6, lines 30-34). It appears that Nestell's lens is a pre-formed lens and not a lens manufactured by the presently recited in-mould coating process.

Moreover, it should be noted that Nestell's lens is a polycarbonate lens. (Col. 6, lines 14-15). Applicants respectfully submit that polycarbonate lenses are traditionally obtained by injection molding. (See, for example, Col. 7, lines 18-48 of U.S. Patent No. 6,886,937). In most cases, an injection molded lens is removed from the mold prior to subsequent coatings being formed on the lens. Applicants respectfully submit that it is technically very difficult to add the coating layers to the surface of a mold that is to be used for injection molding, as opposed to a mold that is to be used for a UV cured system such as the one described in the present disclosure. Accordingly, Applicants respectfully submit that Nestell's polycarbonate lens is formed by injection molding followed by traditional overcoating with the primer coating and the protective hard coat. As such, it is respectfully submitted that Nestell's polycarbonate lens is not formed by the presently recited in-mould coating methods.

Additionally, Applicants respectfully submit that although Nestell teaches an intermediate film, there is no reason that one of skill in the art would introduce an intermediate film in the ophthalmic lens of Sandvig. The reason for this is that Sandvig discloses that as the organic liquid hardens, the film of coating composition

forms an intimate bond with the substrate so that it adheres to the optical surface of the device more firmly than it adheres to the face of the mold and the coating is so intimately attached to the substrate that it can withstand repeated exposure to freeze/thaw cycles without any loss of adhesion. (Page 8, lines 11-17).

Sandvig goes on to describe the various advantages of the intimate bond between its coating composition and the substrate. (See Page 8, lines 19-37 and Page 9, lines 1-5). Applicants respectfully submit that the introduction of an intermediate layer in Sandvig would destroy the spirit of Sandvig's ophthalmic device. Moreover, Applicants respectfully submit that Sandvig teaches away from the use of any intermediate layers between its coating and substrate. Applicants direct the Examiner's attention to M.P.E.P. § 2143.01, wherein it is provided that if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. (See, In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)).

Accordingly, Applicants respectfully submit that after reading Sandvig's disclosure regarding an ophthalmic device in which its single layer coating forms an intimate bond with the substrate, one of skill in the art would not turn to Nestell's vehicle headlamp lens to add an intermediate layer in Sandvig's already successful ophthalmic device.

Even if Sandvig and Nestell were inappropriately combined, the combination of Sandvig and Nestell does not disclose or suggest all the features recited in independent claim 41. Applicants respectfully submit that Sandvig and/or Nestell do not disclose or suggest **applying a second coating layer to the first coating layer**

to substantially cover the first coating layer. Sandvig and/or Nestell also fail to disclose or suggest **treating the second coating layer to provide at least weak adhesion of the second coating layer to the first coating layer and to prevent damage to the second layer during subsequent steps**, as recited in independent claim 41.

More particularly, it should be noted that Nestell does not disclose or suggest that the intermediate primer coating 27d is applied such that the protective coating 27a is substantially covered. In fact, Nestell merely discloses that the intermediate primer coating 27d aids in the adhesion of the protective coating 27a to the lens 24. Nestell does not disclose or suggest that the intermediate primer coating 27d is coated to **substantially cover** the protective coating 27a. In contrast, independent claim 41 recites **applying a second coating layer to the first coating layer to substantially cover the first coating layer.**

Moreover, Nestell does not disclose or suggest treating the intermediate primer coating 27d. In contrast, independent claim 41 recites **treating the second coating layer to provide at least weak adhesion of the second coating layer to the first coating layer and to prevent damage to the second layer during subsequent steps.**

Applicants also note that even if Sandvig and Nestell were not inappropriately combined, Nestell's disclosure regarding primer coating 27b and second primer coating 27c cannot be relied upon to teach or suggest any of the presently recited coatings because coatings 27b and 27c improve adhesion of a gasket material 28 to the protective coated lens. (See Col. 11, lines 35-63 of Nestell). Nestell's gasket material 28 is integrally molded onto the peripheral edge of the lens 24 by a molding

apparatus. (Col. 9, lines 47-49). The gasket material is used in Nestell to hold the lens in place in the headlamp assembly.

In contrast, independent claim 41 recites an **optical element** that does not include any gasket material.

Konishi is cited merely as disclosing methacryloxypropylmethyldiethoxysilane. As such, Konishi fails to cure the many above-noted deficiencies with regard to Sandvig and Nestell. For at least the reasons provided hereinabove, Applicants respectfully submit that Sandvig, Nestell, and Konishi fail to disclose or suggest all the limitations recited in independent claim 41. For at least the foregoing reasons, Applicants respectfully submit that independent claim 41 is patentable over Sandvig in view of Nestell and Konishi. As dependent claims 42-57, 83-85, 88-94, 97, 98, 102, and 103 depend from independent claim 41, dependent claims 42-57, 83-85, 88-94, 97, 98, 102, and 103 are also patentable over Sandvig in view of Nestell and Konishi for at least the same reasons.

Accordingly, Applicants respectfully request that the obviousness rejection over Sandvig in view of Nestell and Konishi be withdrawn.

(iv) Claims 86 and 87 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Sandvig in view of Nestell and Konishi as applied to claim 41 above, and further in view of U.S. Patent No. 5,204,126 ("Singh"). Applicants respectfully traverse the Examiner's rejection for at least the following reasons.

Claims 86 and 87 depend from independent claim 41. Singh is cited merely as disclosing the additional features recited in dependent claims 86 and 87. As such, Singh fails to cure the many above-noted deficiencies with regard to Sandvig,

Nestell, and Konishi. For at least the reasons provided hereinabove, Applicants respectfully submit that dependent claims 86 and 87 are also patentable over Sandvig in view of Nestell and Konishi and further in view of Singh for at least the same reasons.

Accordingly, Applicants respectfully request that the obviousness rejection over Sandvig in view of Nestell and Konishi and further in view of Singh be withdrawn.

(v) Claims 99-101 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Sandvig in view of Nestell and Konishi as applied to claim 41 above, and further in view of U.S. Patent No. 5,096,626 ("Takamizawa"). Applicants respectfully traverse the Examiner's rejection for at least the following reasons.

Claims 99-101 depend directly or indirectly from independent claim 41. Takamizawa is cited merely as disclosing the additional features recited in dependent claims 99-101. As such, Takamizawa fails to cure the many above-noted deficiencies with regard to Sandvig, Nestell, and Konishi. For at least the reasons provided hereinabove, Applicants respectfully submit that dependent claims 99-101 are also patentable over Sandvig in view of Nestell and Konishi and further in view of Takamizawa for at least the same reasons.

Accordingly, Applicants respectfully request that the obviousness rejection over Sandvig in view of Nestell and Konishi and further in view of Takamizawa be withdrawn.

New Claim

New claim 107 has been added. Support for the new claim can be found throughout the specification and claims as originally filed. See, for example, page 1, lines 5-6, page 13, lines 8-15, and page 16, lines 18-26. Applicants respectfully submit that new claim 107 is patentable over the cited references for at least the reasons noted above.

Conclusion

Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below if any issues remain in this matter, or if a discussion regarding any portion of the application is desired by the Examiner.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,
BUCHANAN INGERSOLL & ROONEY PC

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